

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
16 July 2009 (16.07.2009)

PCT

(10) International Publication Number
WO 2009/089406 A3

(51) International Patent Classification:

A43B 17/00 (2006.01) A43B 7/28 (2006.01)
A43B 7/30 (2006.01)

(21) International Application Number:

PCT/US2009/030524

(22) International Filing Date:

9 January 2009 (09.01.2009)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

61/020,598 11 January 2008 (11.01.2008) US
12/350,605 8 January 2009 (08.01.2009) US

(71) Applicant (for all designated States except US): **ES-
OLES, L.L.C.** [US/US]; 9376 E. Bahia Drive, Suite
D-101, Scottsdale, AZ 85260 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SON, Jae** [US/US];
6542 Ocean Crest Drive, D101, Rancho Palos Verdes,
CA 90275 (US). **HINSHAW, Glen, D.** [US/US]; 8034
East Dale Lane, Scottsdale, AZ 85266 (US). **ABLES,
David** [US/US]; 5409 Carlton Way, Los Angeles, CA
90027 (US).

(74) Agent: **HERBSTER, George, A.**; 40 Beach Street, Suite
303, Manchester, MA 01944 (US).

(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ,
EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN,
HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR,
KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME,
MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO,
NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG,
SK, SL, SM, ST, SV, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ,
TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV,
MC, MK, MT, NL, NO, PL, PT, RO, SE, SI, SK, TR),
OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML,
MR, NE, SN, TD, TG).

Published:

- with international search report (Art. 21(3))
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments (Rule 48.2(h))

(88) Date of publication of the international search report:

17 September 2009

(54) Title: INTELLIGENT ORTHOTIC INSOLE

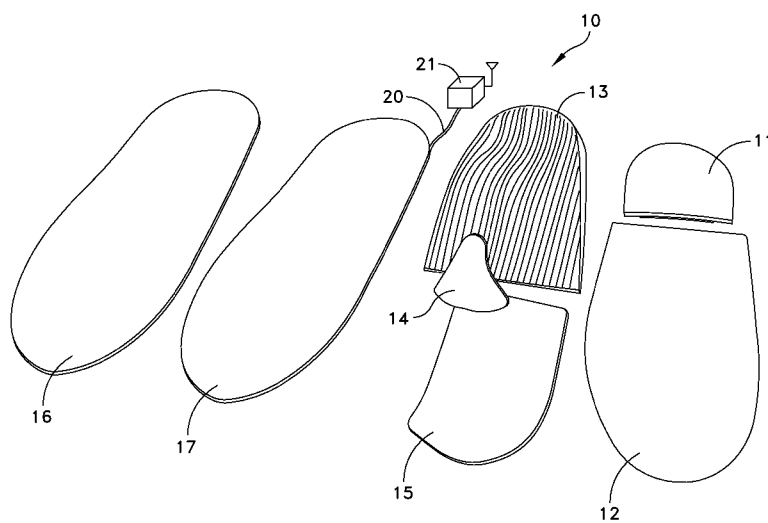


FIG. 2

(57) Abstract: An intelligent insole for generating time sensitive information about the pressure on the foot. The insole includes a custom-made, semi-custom, or generically sized orthotic component. The orthotic is laminated with a top cover and an intermediate pressure sensor having an array of capacitive pressure sensors. Signal processing equipment may be embedded in the insole or placed locally with the insole as on the side of a shoe. The processor also can connect to a wireless transmitter for relaying the information to a remote site.



WO 2009/089406 A3

A. CLASSIFICATION OF SUBJECT MATTER*A43B 17/00(2006.01)i, A43B 7/30(2006.01)i, A43B 7/28(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC A43B A61B G01M

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Korean Utility models and applications for Utility models since 1975
Japanese Utility models and application for Utility models since 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKOMPASS(KIPO internal) "insole, orthotic, sensor "

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	KR 20-1991-0016217 U (KIM, BYEONG DO) 26 OCTOBER 1991 See the whole document	1-21
A	KR 10-2007-0100195 A (KIM, CHUL UN) 10 OCTOBER 2007 See the whole document	1-21
A	US 2007-0125166 A1 (RICHARD S. HASELHURST et al.) 07 JUNE 2007 See the whole document	1-21
A	US 5642096 A (ROLAND LEYERER et al.) 24 JUNE 1997 See the whole document	1-21
A	WO 2000-064293 A1 (ANATOMIC RESEARCH, INC.) 02 NOVEMBER 2000 See the whole document	1-21

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search

29 JULY 2009 (29.07.2009)

Date of mailing of the international search report

29 JULY 2009 (29.07.2009)

Name and mailing address of the ISA/KR

Korean Intellectual Property Office
Government Complex-Daejeon, 139 Seonsa-ro, Seo-gu, Daejeon 302-701, Republic of Korea

Facsimile No. 82-42-472-7140

Authorized officer

LEE, Kang Young

Telephone No. 82-42-481-5583



INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/US2009/030524

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
KR 20-1991-0016217 U	26. 10. 1991	NONE	
KR 10-2007-0100195 A	10. 10. 2007	NONE	
US 2007-0125166 A1	07. 06. 2007	US 2006-0016255 A1 US 07191644 B2 US 07526954 B2 US 2007-0204687 A1 WO 2008-083402 A3 WO 2008-083402 A2	26. 01. 2006 20. 03. 2007 05. 05. 2009 06. 09. 2007 10. 07. 2008 10. 07. 2008
US 05642096 A	24. 06. 1997	NONE	
WO 2000-064293 A1	02. 11. 2000	CA 2370058 A1 CA 2367633 A1 EP 1182944 A1 EP 1196054 A1 EP 1182944 A4 WO 2000-054616 A1	02. 11. 2000 21. 09. 2000 06. 03. 2002 17. 04. 2002 22. 06. 2005 21. 09. 2000